

WE CLAIM:

1. A method of making an absorbent nonwoven web, comprising:
  - a) producing a mass of thermoplastic, substantially continuous side-by-side or sheath-core multicomponent filaments by entraining molten thermoplastic polymers into an air stream;
  - b) introducing an absorbent material into the air stream to commingle the absorbent material within the mass of substantially continuous filaments;
  - c) cooling the filaments,
  - d) collecting the mass of filaments and commingled absorbent material onto a forming wire;
  - e) passing the collected mass of filaments and commingled absorbent material through a heater at a time and temperature sufficient to activate the sheath of the filaments into a liquid state without activating the core of the filaments, whereby the activated sheath polymer wets a majority of the absorbent material.
2. The method of making an absorbent nonwoven web according to Claim 1, further comprising: densifying the activated mass of filaments and commingled absorbent material at a pressure, heat, and time sufficient to obtain a 0.05 g/cc to 0.3 g/cc density web.

3. The method of making an absorbent nonwoven web according to Claim 1, further comprising: cooling the activated and densified web thereby forming hardened flow joints of sheath polymer connected to the absorbent material.

4. The method of making an absorbent nonwoven web according to Claim 1, wherein the sheath of the multicomponent filaments contains polar functional groups.

5. The method of making an absorbent nonwoven web according to Claim 1, wherein the multicomponent filaments are spunbond.

6. The method of making an absorbent nonwoven web of Claim 5, further comprising introducing a second mass of a second type of thermoplastic filaments into the airstream, wherein the second type of thermoplastic filament is a meltblown type of smaller denier than the spunbond multicomponent filaments.

7. The method of making an absorbent nonwoven web of Claim 6, wherein the melting point of the meltblown filaments is lower than the melting point of the spunbond filaments.

8. The method of making an absorbent nonwoven web of Claim 6, wherein the melting point of the meltblown filaments is higher than the melting point of the spunbond filaments.

9. The method of making an absorbent nonwoven web of Claim 5, wherein the thermoplastic filaments are produced on-line in an integral process.

10. The method of making an absorbent nonwoven web according to Claim 1, wherein the multicomponent filaments crimp when exposed to heating.

11. The method of making an absorbent nonwoven web according to Claim 1, wherein the multicomponent filaments are meltblown.

12. The method of making an absorbent nonwoven web according to Claim 1, wherein the multicomponent filaments measure in the range of 4 micron to 30 micron diameter.

13. The method of making an absorbent nonwoven web according to Claim 1, wherein the forming wire bears the collected mass through a forced air heater.

14. The method of making an absorbent nonwoven web according to Claim 1, wherein the web is densified to between 0.05 g/cc to 0.10 g/cc density.

15. The method of making an absorbent nonwoven web according to Claim 1, wherein the second polymer comprises a wettable polymer different from the first polymer and selected from the group consisting of polyvinyl acetates, saponified polyvinyl acetates, saponified ethylene vinyl acetates, and combinations thereof.

16. The method of making an absorbent nonwoven web according to Claim 1, further comprising: adding about 5-97% by weight of the pulp fibers and about 3-95% by weight of the substantially continuous multicomponent filaments in the air stream.

17. The method of making an absorbent nonwoven web according to Claim 1, further comprising: adding about 35-95% by weight of the pulp fibers and about 5-65% by weight of the substantially continuous multicomponent filaments in the air stream.

18. The method of making an absorbent nonwoven web according to Claim 1, further comprising: adding about 50-95% by weight of the pulp fibers and about 5-50% by weight of the substantially continuous multicomponent filaments in the air stream.

19. The method of making an absorbent nonwoven web according to Claim 1, further comprising: adding about 5-90% by weight of a superabsorbent material in the air stream.

20. The method of making an absorbent nonwoven web according to Claim 19, further comprising: adding about 10-60% by weight of the superabsorbent material in the air stream.

21. The method of making an absorbent nonwoven web according to Claim 19, further comprising: adding about 20-50% by weight of the superabsorbent material in the air stream.

22. The method of making an absorbent nonwoven web according to Claim 1, further comprising: heating the sheaths of the filaments at between about 160 degrees F and about 300 degrees F, for about 0.5 to about 20 seconds to achieve full activation.

23. An absorbent article comprising:

- a) a cover sheet serving as the exterior layer of the article;
- b) a top sheet serving as the interior layer of the article; and
- c) a primary liquid retention layer having:
  - i) a mass of thermoplastic, substantially continuous, at least partially sheath-core, multicomponent filaments having a plurality of pulp fibers contacting the filaments; and
  - ii) with a majority of the pulp fibers joined to sheaths of the multicomponent filaments by hardened flow joints; and
  - iii) the primary liquid retention layer further being a densified web.

24. The absorbent article according to Claim 23 wherein the primary liquid retention layer is a densified web of from about 0.05 g/cc to about 0.5 g/cc density.

25. An absorbent nonwoven web comprising:

a) a mass of thermoplastic, substantially continuous, at least partially sheath-core, multicomponent filaments having a plurality of pulp fibers in contact with the filaments;

b) a majority of the pulp fibers joined to sheaths of the multicomponent filaments by hardened flow joints; and

c) the mass of thermoplastic, substantially continuous, at least partially sheath-core, multicomponent filaments contacting a plurality of pulp fibers further being densified.

26. An absorbent nonwoven web made according to the method of Claim 1.